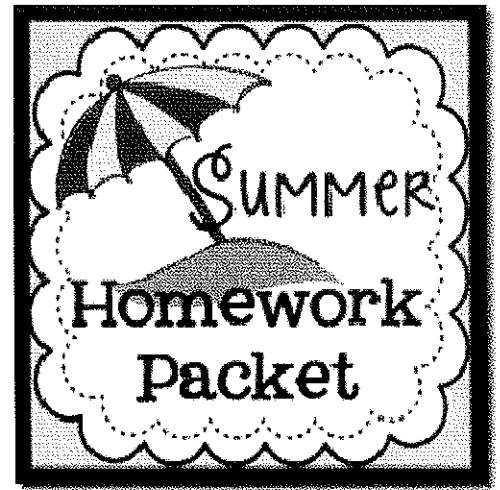


Name: _____

Class: _____

GRADE 7
MATH SUMMER PACKET



Welcome to the 7th Grade!

1. Email Ram at rambuena@gmail.com from August 15- September 7, 2014

Write about the following:

- a. Your name, birthday
- b. How you spent your summer time
- c. Name of a parent, email address, and cellphone number
- d. What do you expect from math this coming September? What activities/work are you looking forward to?

You get your FIRST HAPPY SLIP (Reward system) if you email Ram before the first day of school, September 8th.

2. Your first homework is an ASSESSMENT of what you know so far about basic skills in math.

Directions:

- a. Answer the 50 problems by showing work on a separate/white paper. You may go online for help or ask family members on how to do the work.
- b. Bubble your answer on the Bubble sheet provided.
- c. The answer sheet should be signed by your parent.
- d. Ram will collect the bubble sheet with all the papers where you showed work. Staple them together. Ram will not collect the sheets with questions.
- e. Submit this work by September 9

NOTE:

Go online for details about Middle School supply list, homework packets, and information about your subjects and teachers

www.trcsmshw.wikispaces.com

A handwritten signature in cursive script that reads "Ram".

NAME: _____

PARENTS SIGN: _____

Multiple-Choice Answer Sheet

NOTE: STAPLE YOUR WORK
BELOW THIS PAGE

Test Title

HW #1

1. (A) (B) (C) (D)

2. (A) (B) (C) (D)

3. (A) (B) (C) (D)

4. (A) (B) (C) (D)

5. (A) (B) (C) (D)

6. (A) (B) (C) (D)

7. (A) (B) (C) (D)

8. (A) (B) (C) (D)

9. (A) (B) (C) (D)

10. (A) (B) (C) (D)

11. (A) (B) (C) (D)

12. (A) (B) (C) (D)

13. (A) (B) (C) (D)

14. (A) (B) (C) (D)

15. (A) (B) (C) (D)

16. (A) (B) (C) (D)

17. (A) (B) (C) (D)

18. (A) (B) (C) (D)

19. (A) (B) (C) (D)

20. (A) (B) (C) (D)

21. (A) (B) (C) (D)

22. (A) (B) (C) (D)

23. (A) (B) (C) (D)

24. (A) (B) (C) (D)

25. (A) (B) (C) (D)

26. (A) (B) (C) (D)

27. (A) (B) (C) (D)

28. (A) (B) (C) (D)

29. (A) (B) (C) (D)

30. (A) (B) (C) (D)

31. (A) (B) (C) (D)

32. (A) (B) (C) (D)

33. (A) (B) (C) (D)

34. (A) (B) (C) (D)

35. (A) (B) (C) (D)

36. (A) (B) (C) (D)

37. (A) (B) (C) (D)

38. (A) (B) (C) (D)

39. (A) (B) (C) (D)

40. (A) (B) (C) (D)

41. (A) (B) (C) (D)

42. (A) (B) (C) (D)

43. (A) (B) (C) (D)

44. (A) (B) (C) (D)

45. (A) (B) (C) (D)

46. (A) (B) (C) (D)

47. (A) (B) (C) (D)

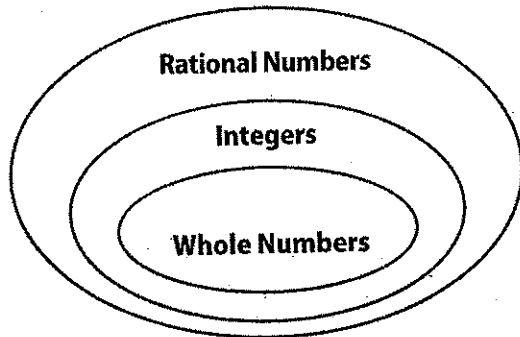
48. (A) (B) (C) (D)

49. (A) (B) (C) (D)

50. (A) (B) (C) (D)

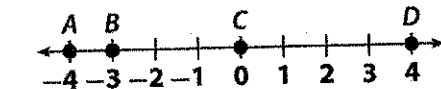
Placement Test

1. To which set or sets below does the number $-\frac{7}{8}$ belong?



- A whole numbers only
 B rational numbers only
 C integers and rational numbers only
 D whole numbers, integers, and rational numbers

2. Which of the following points is graphed at the opposite of -4 on the number line below?



- A A
 B B
 C C
 D D
3. Jamal plotted points on a number line at the four values below.

$$0.27, -\frac{1}{4}, 1.1, \frac{5}{3}$$

Which of these values is farthest from zero?

- A 0.27
 B $-\frac{1}{4}$
 C 1.1
 D $\frac{5}{3}$
4. Harriet recorded outdoor temperatures as -7°C , -2°C , and 1°C . Which of the following correctly compares the three temperatures?
- A $-7 < 1 < -2$
 B $1 < -2 < -7$
 C $-2 < 1 < -7$
 D $-7 < -2 < 1$

5. Which of the following is equivalent to the expression below?

$$\frac{2}{9} \times \frac{3}{4}$$

- A $\frac{2}{9} \div \frac{3}{4}$
 B $\frac{3}{4} \div \frac{2}{9}$
 C $\frac{2}{9} \div \frac{4}{3}$
 D $\frac{9}{2} \div \frac{4}{3}$

6. What is the greatest common factor of 12 and 48?

- A 12
 B 24
 C 36
 D 48

7. What is the least common multiple of 5 and 12?

- A 24
 B 30
 C 36
 D 60

8. Abby is making frozen popsicles using $5\frac{3}{4}$ cups of fruit juice and $1\frac{3}{4}$ cups of

water. Abby mixes the fruit juice and water together. She will then pour the mixture into popsicle molds. Each mold will hold $\frac{1}{2}$ cup. How many popsicles can

Abby make?

- A 7
 B 15
 C 20
 D 24

9. Zoe is making a quilt using 15 red squares and 30 green squares. Which combination shows the same ratio of red squares to green squares?

- A 3 red squares to 6 green squares
 B 6 red squares to 3 green squares
 C 5 red squares to 12 green squares
 D 12 red squares to 5 green squares

Name _____

Date _____

Class _____

Placement Test

10. Last year, a local amusement park received 286,758 visitors. It was open every day of the year except 7 holidays. What was the average number of visitors to the park per day?

A 786 visitors C 957 visitors
B 801 visitors D 1,204 visitors

11. Dennis ran a mile in 593.7 seconds. Martina ran a mile in 573.36 seconds. What was the difference in their running times?

A 5.14 s C 20.34 s
B 6.01 s D 26.01 s

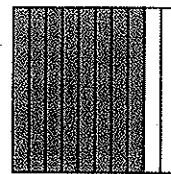
12. In Ellen's math class, there are 2 boys for every 3 girls. Which of the following could be the ratio of boys to girls in the class?

A $\frac{17}{21}$ C $\frac{7}{14}$
B $\frac{14}{21}$ D $\frac{11}{17}$

13. Seth bought a 12-ounce jar of peanut butter for \$3.60. What is the unit price?

A \$0.03/oz C \$3.00/oz
B \$0.30/oz D \$3.03/oz

14. What percent of the rectangle below is shaded?

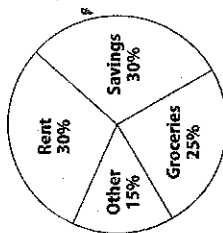


A 20% C 40%
B 30% D 80%

15. Yvette measured the length of her driveway to be 5 meters long. Which of these is an equivalent measurement?

A 0.07 mi C 16.4 ft
B 15.5 yd D 585 in.

16. Jason's budget is shown in the circle graph below. His total monthly budget is \$3,000. How much does Jason spend on groceries?



A \$25 C \$450
B \$150 D \$750

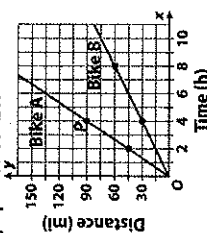
17. Mary bought 10 quarts of juice at the grocery. How many gallons of juice did she buy?

A 1.4 gal C 3.5 gal
B 2.5 gal D 4.5 gal

18. On a certain map, 3 inches represents 15 miles. Briarwood and Middletown are 5 inches apart on the map. What is the actual distance between Briarwood and Middletown?

A 25 mi C 50 mi
B 30 mi D 75 mi

Use the graph for 19–20.



19. What are the coordinates of point P?

A (4, 3) C (4, 90)
B (4, 30) D (40, 90)

Name _____

Date _____

Class _____

Placement Test

20. What is the independent variable?

A Bike A C time
B Bike B D distance

Use the table for 21–22.

Machine Rental Charges				
Hours, x	3	5	7	
Charge, y (\$)	51	85	119	

21. Which equation expresses y in terms of x ?

A $y = 17x$ C $x = 51y$
B $y = 25x$ D $x = 85y$

22. What is the charge for renting a machine for 3.5 hours?

A \$51.50 C \$65.50
B \$59.50 D \$86.50

23. What are all the factors of 15?

A 1, 3, 5
B 1, 3, 5, 10
C 1, 2, 3, 5, 10
D 1, 3, 5, 15

24. What is the value of the expression below?

$$675 - (15 - 12)^3 \div 3$$

A 216 C 666
B 224 D 678

25. On a farm, there are c cows and 15 sheep. There are 4 more sheep than cows. Which equation represents the situation?

A $c = 15 + 4$
B $c = 15 - 4$
C $c = 4 - 15$
D $c = 4 \times 15$

26. Write an algebraic expression for the phrase below.

8 more than three times a number n
A $3 + 8n$ C $3n - 8$
B $8n - 3$ D $3n + 8$

27. Which of the following expressions is equivalent to the expression below?
 $4(2x + 11 - x)$

A $8x + 11$ C $2x - 11$
B $x + 22$ D $4x + 44$

28. A triangle has an area of 369.25 square inches. The height of the triangle is 42.2 inches. What is the length of the base of the triangle?

A 17.5 in. C 42.7 in.
B 35 in. D 56 in.

29. A parallelogram has a base of 9 centimeters and a height of 21 centimeters. What is the area of the parallelogram?

A 30 cm^2 C 189 cm^2
B 94.5 cm^2 D 567 cm^2

30. A rectangular prism has a volume of 285.6 cubic feet. The prism is 12 feet long and 3.4 feet wide. What is the height of the prism?

A 7 ft C 19 ft
B 15 ft D 22 ft

31. Which inequality is shown on the number line below?



A $p < -3$ C $p > -3$
B $p \leq -3$ D $p \geq -3$

32. Mariah bought a shirt for \$28.50 and a belt. The total cost was \$45.50. Which of the following equations can be used to find the cost of the belt?

A $28.50 + b = 45.50$
B $45.50 + b = 28.50$
C $b = 28.50 - 45.50$
D $b = 28.50 \times 45.50$

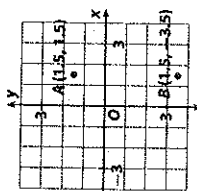
Name _____

Date _____

Class _____

Placement Test

33. What is the distance between points A and B on the grid?



- A 3 units
B 4.5 units
C 5 units
D 5.5 units

34. Charlene is wrapping the box below. How much wrapping paper will she need?

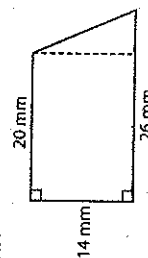


- A 186 in^2
B 372 in^2
C 480 in^2
D 558 in^2

35. A shipping container in the shape of a rectangular prism is 60 feet long, $45\frac{1}{2}$ feet wide, and 14 feet tall. What is the volume of the shipping container?

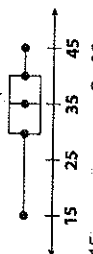
- A $2,400 \text{ ft}^3$
B $2,730 \text{ ft}^3$
C $38,220 \text{ ft}^3$
D $76,440 \text{ ft}^3$

36. What is the area of the polygon shown below?



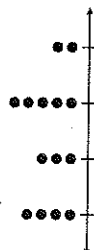
- A 322 mm^2
B 364 mm^2
C 520 mm^2
D 584 mm^2

37. What is the median of the data represented in the box plot below?



- A 15
B 25
C 35
D 45

38. What is the mode of the data represented in the dot plot below?

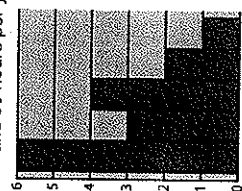


- A 0
B 1
C 2
D 3

39. Lisa read 46 pages on Sunday, 15 pages on Monday, and 19 pages on Tuesday. Which of the following is closest to the mean number of pages she read over the three-day period?

- A 19 pages
B 21 pages
C 27 pages
D 35 pages

40. The histogram below shows the number of hours per year students in Mr. Hopper's class do volunteer work. How many students do volunteer work between 21 and 30 hours per year?



- A 2 students
B 3 students
C 4 students
D 6 students

Name _____

Date _____

Class _____

Beginning-of-Year Diagnostic Test

1. At 7 P.M. the temperature was 5°F .

At midnight the temperature was -7°F .
What was the change in temperature?

- A -12°F
B -7°F
C 5°F
D 12°F

2. What is the product of $-12(-5)$?

- A -60
B -48
C 48
D 60

3. What is true about the relationship between miles and gallons?

gallons	2	4	6	8
miles	30	60	90	120

- A There is no relationship between miles and gallons.

- B There is a proportional relationship between miles and gallons.

- C There is a 1 to 15 relationship between miles and gallons.

- D There is a 30 to 1 relationship between miles and gallons.

4. Which decimal is equivalent to $\frac{4}{20}$?

- A 0.2
B 0.6
C 1.4
D 4.2

5. At the farmers' market, you can buy 3 jars of honey for \$12, 6 jars of honey for \$24, or 9 jars of honey for \$36. What is the constant of proportionality for buying jars of honey?

- A 3
B 4
C 6
D 12

6. Andrella makes bead bracelets. Each bracelet is 7 inches long. Andrella has a 67-inch length of beaded string. How many necklaces can she make?

- A 7 necklaces
B 9 necklaces
C 10 necklaces
D 11 necklaces

7. The ground temperature at sea level is 60°F . For every 100-foot increase in elevation, the temperature rises $\frac{1}{10}$ of one degree. At an altitude of 2,000 feet, what will be the likely temperature?

- A 58°F
B 62°F
C 72°F
D 80°F

8. Tamara walked $\frac{3}{4}$ mile in $\frac{1}{2}$ hour. Which of the following represents the unit rate that Tamara walked?

- A $\frac{1}{2}$ mi/h
B $\frac{2}{3}$ mi/h
C $\frac{3}{4}$ mi/h
D $1\frac{1}{2}$ mi/h

9. Simplify $\frac{1}{2}(2a + b) - (4a + b)$.

- A $-3a - \frac{1}{2}b$
B $-2a + 2b$
C $-3a + \frac{3}{2}b$
D $-3a - b$

10. Jay spent \$6.40 to buy 4 muffins. How much will 9 muffins cost?

- A \$12.03
B \$12.80
C \$14.40
D \$144.00

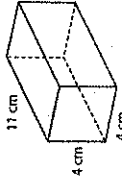
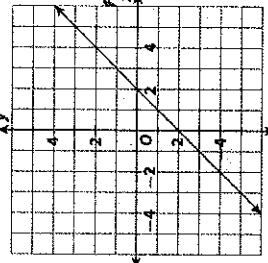
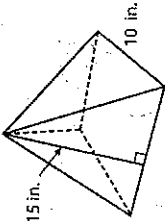
11. A reduced scale drawing of a rectangle measures 12 inches by 16 inches. The scale factor is $\frac{1}{4}$. What is the size of the original rectangle?

- A 3 in. \times 4 in.
B 16 in. \times 20 in.
C 36 in. \times 48 in.
D 48 in. \times 64 in.

12. Which fraction is equivalent to -0.12 ?

- A $\frac{3}{25}$
B $-\frac{7}{50}$
C $-\frac{4}{25}$
D $-\frac{6}{25}$

Beginning-of-Year Diagnostic Test

13. The cost of 2 pounds of coffee is \$17.95. To the nearest dollar, what is the cost of 5 pounds of coffee?
 A \$34 B \$36 C \$45 D \$90
14. On a map, the distance between two cities is 5.25 inches. The map scale is 1 in.:25 mi. To the nearest mile, what is the actual distance between the two cities?
 A 13 mi B 30 mi C 125 mi D 131 mi
15. Patti got a new part-time job. Her hourly wage increased from \$10.50 to \$12.39. What was the percent increase in Patti's hourly wage?
 A 1.8% B 15.25% C 18% D 189%
16. To the nearest cubic centimeter, what is the volume of the prism below?

 A 19 cm³ B 44 cm³ C 88 cm³ D 176 cm³
17. A bag contains 12 blue marbles, 5 red marbles, and 3 green marbles. Jonas selects a marble and then returns it to the bag before selecting a marble again. If Jonas selects a blue marble 4 out of 20 times, what is the experimental probability that the next marble he selects will be blue?
 A .02% B 2% C 20% D 200%
18. The circumference of a circle is 36π inches. What is the radius of this circle?
 A 9 in. B 12 in. C 18 in. D 36 in.
19. Which equation is represented by the graph below?

 A $y + 2 = x$ B $y + 1 = x$ C $y - 1 = x$ D $y - 2 = x$
20. To the nearest square inch, what is the surface area of the square pyramid below?

 A 175 in² B 200 in² C 400 in² D 700 in²
21. Cybil flips a coin and rolls a fair number cube at the same time. What is the probability that she will toss tails and roll a number less than 3?
 A $\frac{1}{6}$ B $\frac{1}{3}$ C $\frac{2}{5}$ D $\frac{1}{2}$
22. The Rogers family drove 220 miles in 5.5 hours. How many miles would they drive at this same rate in 4 hours?
 A 88 mi B 147 mi C 160 mi D 176 mi

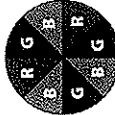
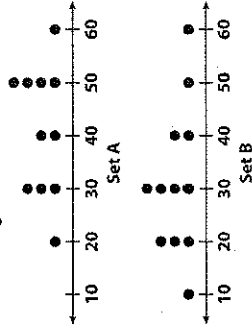
Beginning-of-Year Diagnostic Test

23. Your school is choosing a new school mascot to represent all team sports. Which group should you ask to get a random sample of student opinion?
 A students on the basketball team B every 10th student that enters the cafeteria C the first 20 seniors at the library D students on the cheerleading squad
24. A rectangle is 14 inches long and 4 inches wide. A smaller, similar rectangle is 2 inches wide. To the nearest inch, what is the length of the smaller rectangle?
 A $3\frac{1}{2}$ in. B 7 in. C 8 in. D 28 in.
25. There are 30 colored marbles inside a bag. Six marbles are yellow, 9 are red, 7 are white, and 8 are blue. One is drawn at random. Which color is most likely to be chosen?
 A white B red C blue D yellow
26. Which table represents the same linear relationship as the equation $y = 2x + 6$?

x	y
0	1
1	2
2	5
6	7
8	10

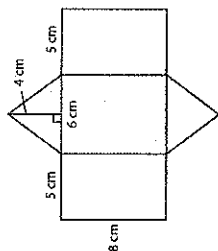
x	y
2	3
3	4
4	5
8	9
10	11

x	y
2	3
3	4
4	5
10	12
14	16

x	y
2	3
3	4
4	5
16	18
20	22
27. Evan's dog weighs $15\frac{3}{8}$ pounds. What is this weight written as a decimal?
 A 15.125 lb B 15.375 lb C 15.385 lb D 15.625 lb
28. The spinner below is divided into sections that are red, green, or blue. What is the probability that the spinner will land on red or green?

 A $\frac{1}{4}$ B $\frac{3}{8}$ C $\frac{1}{2}$ D $\frac{5}{8}$
29. Based on the dot plots below, which of the following is a true statement?

 A Set B has the greater mode.
 B Set A has more items than set B.
 C Set A is more symmetric than set B.
 D Set B has the greater range.
30. For a trip, Eli packed 3 shirts, 3 pairs of pants, and 2 pairs of shoes. How many different outfits can Eli make?
 A 6 outfits B 8 outfits C 9 outfits D 18 outfits

Beginning-of-Year Diagnostic Test

31. The net of a triangular prism is shown below. What is the surface area of the prism?



- A 128 cm² C 176 cm²
 B 152 cm² D 304 cm²
32. A middle school has 470 students. Regina surveys a random sample of 40 students and finds that 28 have cell phones. How many students at the school are likely to have cell phones?
- A 132 students C 329 students
 B 188 students D 338 students

33. Which of the following is the solution to the inequality below?

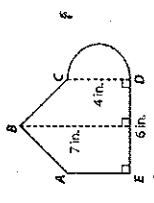
$$-5x - 10 < 20$$

- A $x > -6$ C $x < -6$
 B $x > -2$ D $x < -2$

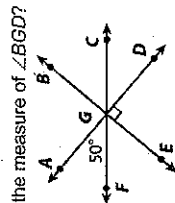
34. Nina operates a dog walking service. She charges a flat fee of \$15 plus \$5 per hour. Which equation represents this linear relationship?

- A $y = 15x - 5$ C $y = 5x - 15$
 B $y = 15x + 3$ D $y = 5x + 15$

35. To the nearest tenth, what is the area of the figure below? Segment \overline{BF} is a line of symmetry of the pentagon $ABCDE$. Use 3.14 for π .

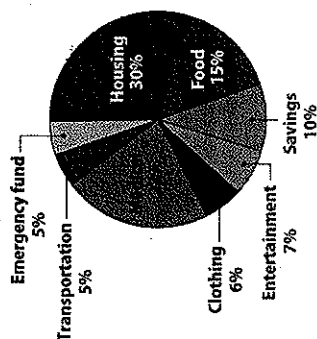


- A 30.3 in² C 39.3 in²
 B 33.0 in² D 48.3 in²



- A 40° C 90°
 B 50° D 130°

37. The Masim family's monthly budget is shown in the circle graph below. The family has a current monthly income of \$5,000. How much money do they spend on food each month?



- A \$250 C \$750
 B \$500 D \$1,100

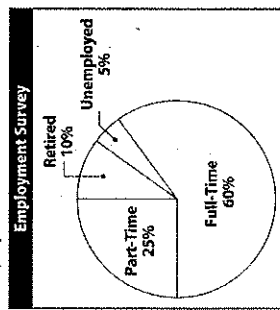
38. A box is 30 inches long wide, 16 inches long, and 14 inches high. To the nearest cubic inch, what is the volume of the box?

- A 224 in³ C 480 in³
 B 420 in³ D 6,720 in³

39. A circle has a radius of 7 inches. What is the area of the circle?

- A 21.98 in² C 153.86 in²
 B 43.96 in² D 615.44 in²

40. The circle graph shows the results of an employment survey of 800 people. How many of the people surveyed were unemployed?



- A 20 people C 80 people
 B 40 people D 120 people

41. An equestrian center is surveying riders to determine which type of horse is preferred. Which of the following is a random sampling method?

- A The equestrian center manager surveys the first 50 riders.
 B The equestrian center surveys every tenth rider at the stable.
 C The equestrian center manager surveys 50 of his friends.
 D The equestrian center surveys the 50 best riders.

42. A 16-inch piece of string is 40.64 centimeters long. To the nearest 0.01 a centimeter, how long will a 42-inch piece of ribbon be?

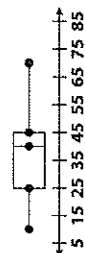
- A 56.64 cm
 B 82.64 cm
 C 106.68 cm
 D 1,706.88 cm

43. One circle has a diameter of 6 inches. A second, larger circle has a diameter that is four times the diameter of the first circle. What is the ratio of the area of the smaller circle to the larger circle?

- A 2:3 C 1:16
 B 1:6.4 D 1:64

Use the box plot for 44–45.

Survey of Ages of Participants



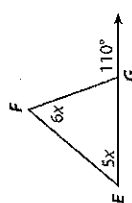
44. What is the median?

- A 10 C 40
 B 25 D 45

45. What is the interquartile range?

- A 10 C 40
 B 20 D 45

Use the figure for 46–47.



46. What is the measure of $\angle FEG$?

- A 30° C 50°
 B 40° D 70°

#50 - 51 → OPTIONAL WORK → No need to answer

Name _____ Date _____ Class _____

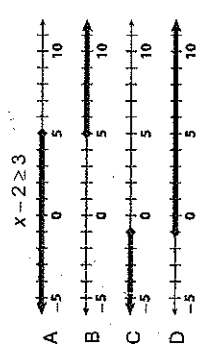
Beginning-of-Year Diagnostic Test

47. Which of the following is not true?
 A $5x + 6x = 70^\circ$
 B $5x + 6x < 180^\circ$
 C $5x + 6x = 110^\circ$
 D $5x + 6x + 70^\circ = 180^\circ$

48. Which equation represents the data shown in the table below?

Cost (y)	5	9	13	17
Gallon (x)	2	4	6	8

- A $y = 2x + 1$ C $y = 2.5x$
 B $y = 3x - 1$ D $y = 2.5x + 1$
49. Which number line represents the solution to the inequality below?



50. Three stores have the same tablet computer on sale. The regular price of the tablet is \$150. Store A is offering the tablet on sale at 15% off the regular price. Store B is offering a \$25 coupon to be deducted from the regular price. Store C is offering a rebate of \$20.00 to purchasers. Store D has the tablet on sale for \$120.00. Which store is offering the tablet at the lowest cost?
- A Store A
 B Store B
 C Store C
 D Store D

STOP

51. The circumference of a circle is 12π feet. What is the radius of the circle?
- A 3 ft C 12 ft
 B 6 ft D 24 ft

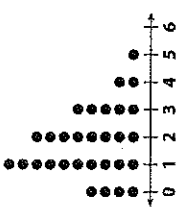
52. The Demir family has a monthly budget of \$5,500. Mrs. Demir works fulltime and takes home \$4,000 each month. Mr. Demir works part-time and brings home earnings \$16 per hour. How many hours per month must Mr. Demir work at his part-time job to make sure that he and Mrs. Demir have met their monthly budget?
- A 37.5 h C 93.75 h
 B 75 h D 125 h

53. Chana has a bag of colored tiles. Without looking, she removes one tile, records the color, and replaces it. She repeats this process 40 times and records the results in the table.

Color	Frequency
Red	9
Blue	12
Green	14
Yellow	5

- What is the probability that Chana will not pick a yellow tile on her forty-first time?
- A $\frac{1}{8}$ C $\frac{7}{8}$
 B $\frac{1}{4}$ D $\frac{9}{10}$

54. Mills Middle School has 280 students. A random sample of 30 students were asked how many cars their families have at home. The results are shown in the dot plot below.

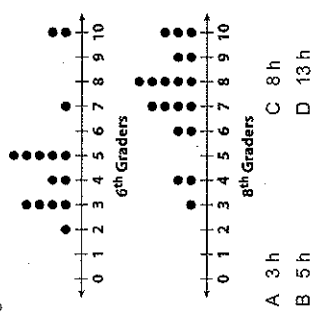


- Which of the following is a qualitative statement that is reasonable based on the data?
- A The fewest number of cars at home is 0.
 B Most students have 2 or fewer cars at home.
 C Most students have 3 or more cars at home.
 D The median number of cars at home is 3.

55. Aaron buys 3 ties for \$19.95 each, a belt for \$23.50, and a pair of boots for \$124.95. The sales tax in his city is 5%. To the nearest cent, what is the total cost of Aaron's purchases?
- A \$176.82 C \$218.72
 B \$197.77 D \$304.29

56. The probability of spinning an odd number on a spinner is 62 percent. What is the probability of not spinning an odd number?
- A 0.28 C 0.48
 B 0.38 D 0.62

57. The dot plots below show the number of hours per week that some sixth graders and eighth graders play video games. What is the difference between the mode for sixth graders and the mode for eighth graders?



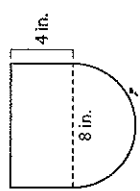
58. A baseball player gets a hit 20% of the times he is at bat. Out of the next 15 times at bat, how many hits can you expect the player to get?
- A 2 hits C 5 hits
 B 3 hits D 12 hits

59. What is the volume of the prism below?



- A 100 cm^3 C 150 cm^3
 B 125 cm^3 D 200 cm^3
60. What is the value of x in the equation below?
- $5x - 35 = 40$
 A -1 C -15
 B 1 D 15

61. To the nearest hundredth, what is the area of the figure below? Use 3.14 for π .



- A 57.12 in^2 C 200.96 in^2
 B 128 in^2 D 328.96 in^2
62. Mike has \$75 to spend at a local model car show. The entrance price for the show is \$20. At one seller's stand, Mike finds some model cars that he likes that are \$7.50 each. What is the maximum number of model cars that Mike can buy at that stand?
- A 6 cars C 8 cars
 B 7 cars D 10 cars